



北京昭衍新藥研究中心股份有限公司
JOINN LABORATORIES (CHINA) CO., LTD.

(A joint stock company incorporated in the People's Republic of China with limited liability)

Stock Code: 6127



2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

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About This Report

This report is the third “Social Responsibility and Environmental, Social and Governance Report” published by JOINN Laboratories (China) Co., Ltd. (hereinafter referred to as “Company”, “the Company”, “JOINN Laboratories”, “We” or “us”). This report mainly introduces the Company’s management policies and performance practices in environmental, social and governance aspects.

Reporting Period and Scope

This report discloses the Company’s management methods, initiatives and performance in environmental, social and governance aspects from 1 January 2022 to 31 December 2022 (hereinafter referred to as the “Year” or the “Reporting Period”) (some contents may be traced back to previous years or extended to the date of disclosure of this report). The scope of disclosure in this report covers the Company’s major branches and subsidiaries. Details are set out in the table below. The statistical scope of environmental data covers relevant companies in Beijing and Suzhou.

No.	Name of company
1	JOINN Laboratories (Suzhou) Co., Ltd.
2	JOINN Laboratories, CA Inc.
3	JOINN Laboratories (HK) Limited
4	Suzhou JOINN Pharmaceutical Technology Co., Ltd.
5	Wuzhou JOINN Laboratories Co., Ltd.
6	Wuzhou JOINN Biotechnology Co., Ltd.
7	JOINN Laboratories (Delaware) Corporation
8	JOINN (Beijing) Pharmaceutical Technology Co., Ltd.
9	JOINN Laboratories (Chongqing) Limited
10	Biomedical Research Models, Inc.
11	JOINN Laboratories (Guangzhou) Co., Ltd.
12	Beijing JOINN MedSafe Pharmaceutical Technology Co., Ltd
13	Beijing Shikang Qianyan Biotechnology Co., Ltd.
14	Qichen (Suzhou) Biological Science and Technology Co., Ltd.
15	Guangxi Qianyan Biological Technology Co., Ltd.
16	JOINN (Beijing) Inspection Technology Co., Ltd.
17	JOINN Laboratories (Shanghai) Co., Ltd.
18	JOINN Laboratories (Wuxi) Limited
19	JOINN Yichuang (Suzhou) Laboratories Co., Ltd.
20	Biomere-Joinn(CA), Inc.
21	JOINN Medical Testing Laboratories (Suzhou) Co., Ltd.
22	Yunnan Yinmore Bio-Tech Co., Ltd.
23	Guangxi Weimei Bio-Tech Co., Ltd.
24	JOINN Drug Quality Research and Testing (Beijing) Co.,Ltd.
25	Idmo Medical Testing Laboratories (Beijing) Co., Ltd.

About This Report

Major Reference Standards of the Report

This report is prepared in accordance with the Rules Governing the Listing of Stocks on the Shanghai Stock Exchange (revised in January 2022), the Guidelines for Self-discipline Supervision of Listed Companies No. 1 of the Shanghai Stock Exchange – Standardised Operation, and the Environmental, Social and Governance Reporting Guide (hereinafter referred to as the “ESG Reporting Guide”) set out in Appendix 27 to the Main Board Listing Rules of The Stock Exchange of Hong Kong Limited (hereinafter referred to as the “Hong Kong Stock Exchange”).

Reporting Principles

- Materiality:** We identify major ESG issues through materiality assessment, and the relevant process and results have been disclosed in the ESG Report;
- Quantitative:** Quantitative information on environmental and social aspects with historical data has been presented in the ESG Report with explanations on its purpose and impact, and comparative data will be provided in subsequent ESG reports;
- Consistency:** We use consistent disclosure and statistical methods. In this report, we have maintained the same disclosure and statistical methods for the information disclosed in the previous year’s report. For the information disclosed for the first time, we will adopt consistent methods for ESG information disclosure in subsequent years to facilitate meaningful comparison year on year.

Publication

This Report is available online in both Chinese and English. All stakeholders can access this report on the official website of the Company (<https://www.joinnlabs.com/>), the website of the Shanghai Stock Exchange (hereinafter referred to as “SSE”) (<http://www.sse.com.cn/>) and the website of the Hong Kong Stock Exchange (www.hkexnews.hk). In case of any discrepancy, the Chinese version shall prevail.

Contact Information

We highly value the opinions of our stakeholders and the public about this Report. Should you have any enquiry or suggestions, please contact the Company through the following means.

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Email: jjafengsong@joinn-lab.com

Board Statement

JOINN Laboratories is well aware of the importance of good corporate governance and risk management processes, including the management of ESG issues that are crucial to the sustainable development of the Company. The Board of the Company is the highest responsible and decision-making body for ESG matters, and assumes full responsibility for the Company's ESG strategy and reporting. The Board conducts regular reviews of the completion status of the targets and reviews the strategies and action plans for achieving the annual targets.

Based on the external social and economic macro environment and the Company's development strategy, the management team of JOINN Laboratories dynamically evaluates the importance of ESG issues, discusses and determines the Company's risks and opportunities in environmental, social and corporate governance, and regards the management and improvement of key issues as the annual strategic work of sustainable development.

The Company gives top priority to R & D quality management through the materiality assessment of ESG issues. The Company adheres to the principle of "serving drug innovation, focusing on safety evaluation and monitoring of the entire life cycle of drugs", and attaches great importance to R & D quality management. At the same time, the Company attaches great importance to leading supply chain management, R & D innovation, employee development and training.

This report discloses in detail the progress and effectiveness of JOINN Laboratories' ESG work in 2022. The Board of JOINN Laboratories and all directors of JOINN Laboratories warrant that there are no false representations, misleading statements or material omissions in this report, and assume joint and several responsibility for the truthfulness, accuracy and completeness of its contents.

About JOINN Laboratories

JOINN Laboratories (Stock Code: 603127.SH/6127.HK) is a privately-owned CRO that has the earliest engagement in non-clinical assessment of drugs in China. Founded in 1995, JOINN Laboratories has a professional technical team of more than 2,000 personnel and has subsidiaries in Beijing, Suzhou, Chongqing, Wuzhou, Guangzhou, Shanghai, Wuxi, as well as in California and Boston in the United States. JOINN Laboratories has established a quality management system (CNAS/ILAC-MRA Certification) in compliance with international standards. JOINN Laboratories has obtained GLP qualifications from the NMPA of China, the U.S. FDA, OECD, Korea's MFDS, Japan's PMDA, and international AAALAC (Animal Welfare) certifications. The evaluation information meets the requirements of global drug registration. We are capable of providing one-stop services such as non-clinical pharmacology and toxicology research and assessment, especially non-clinical safety assessment, clinical trials and pharmacovigilance, to customers. We could also provide services such as the assessment of veterinary drugs, pesticide and medical devices. JOINN adheres to the purpose of "serving drug innovation, focusing on safety evaluation and monitoring of the entire life cycle of drugs", ensuring the safety of patients' medication and safeguard the health of human beings.

昭衍
JOINN
Safety Assessments and Drug Life Cycle Monitoring for Your Drug Innovation.

JOINN Global Distribution

Locations marked on the map:
Beijing, Chongqing, Xishuangbanna, Nanning, Wuzhou, Wuxi, Taicang, Guangzhou, California, Massachusetts.

JOINN (Suzhou)

STOCK CODE
SSE 603127
HKEX 06127

Certifications:

- US FDA GLP Inspected
- PMDA GLP Inspected
- OECD GLP Certified
- MFDS GLP Inspected
- NMPA GLP Certified
- AAALAC Accredited
- CNAS/ILAC-MRA Certified

JOINN (Suzhou)

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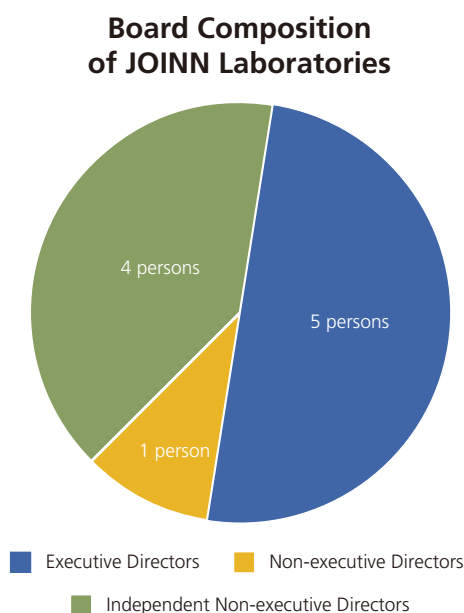
E-Brochure

ESG Responsibility Management

Corporate Governance

The Company strictly complies with the requirements of the “Company Law of the People’s Republic of China”, the “Securities Law of the People’s Republic of China”, the “Rules Governing the Listing of Stocks on Shanghai Stock Exchange”, the “Corporate Governance Code” as set out in Appendix 14 to the Listing Rules of the Hong Kong Stock Exchange and other relevant laws, regulations and regulatory documents. Based on the actual circumstance of the Company’s development, the Company has formed a governance structure with the general meeting, the Board, the Supervisory Committee and the senior management as the main body, established a scientific, efficient, stable and long-term decision-making supervision mechanism and incentive mechanism, continuously improved the standard of corporate governance and protected the interests of the shareholders of the Company.

We advocate the diversity of Board members, and continue to build a diversified and professional Board in terms of gender, age, cultural and educational background, professional development, service term, industry experience and other aspects, so as to improve the decision-making level of the Company from a comprehensive perspective and concept and enhance the effectiveness of the Board. The Board of the Company consists of 5 executive Directors, 1 non-executive Director and 4 independent non-executive Directors. Among the 10 directors of the Company, 2 are female directors, accounting for 20%. As an executive Director, Ms. Feng Yuxia, the Chairman of the Board of the Company has formed a diversified Board structure with other Directors. All Directors have brought extensive experience and professional knowledge to the Company and the Board, including knowledge and experience in business management, medical clinical research, scientific research, financial management and accounting.



Internal Control and Risk Management

JOINN Laboratories strictly complies with the relevant requirements and internal control standards of the SSE and those of the Hong Kong Stock Exchange. The Company has established an effective risk management and internal control system. The Audit Committee under the Board of the Company monitors and manages the overall risks related to business operations. The relevant departments are responsible for the implementation of specific risk management policies and relevant practices, reporting the audit work to the Audit Committee on a quarterly basis, and sending quarterly audit reports to the Audit Committee.

We have established a series of internal control policies and procedures, including the internal audit system. The Company's internal risk identification is divided into two types: regular audits are quarterly audits on a quarter basis, and the Company focuses on the audit of businesses with significant financial data fluctuations based on financial analysis; regular audits are routine audits, and risks are identified through routine special audits, walk-through assays and other audit methods.

ESG Governance

The Company continues to optimise its ESG governance system. As the leader of the Company's ESG governance structure, the Audit Committee under the Board is responsible for reviewing, monitoring, evaluating, managing and approving major sustainable development matters. Its responsibilities and authorities include:

- Reviewing and assessing the adequacy and effectiveness of the structure associated to the sustainable development of the Company;
- Overseeing the development of the Company's sustainability visions, strategies and policies;
- Monitoring the implementation of sustainability visions, strategies and policies;
- Reviewing and approving the disclosures relating to the Company's sustainability framework, objectives and relevant performance as set out in the annual report documents.

The securities department of the Company is responsible for ESG supervision and coordination, implementing leaders' resolutions, communicating and coordinating ESG-related matters, and organising the preparation of ESG reports.

In addition, the Company's functional departments and subsidiaries are the body for the implementation of specific works to carry out the Company's ESG work, effectively record and report ESG-related data, and fully implement ESG-related management work.

ESG Responsibility Management

Communication with Stakeholders

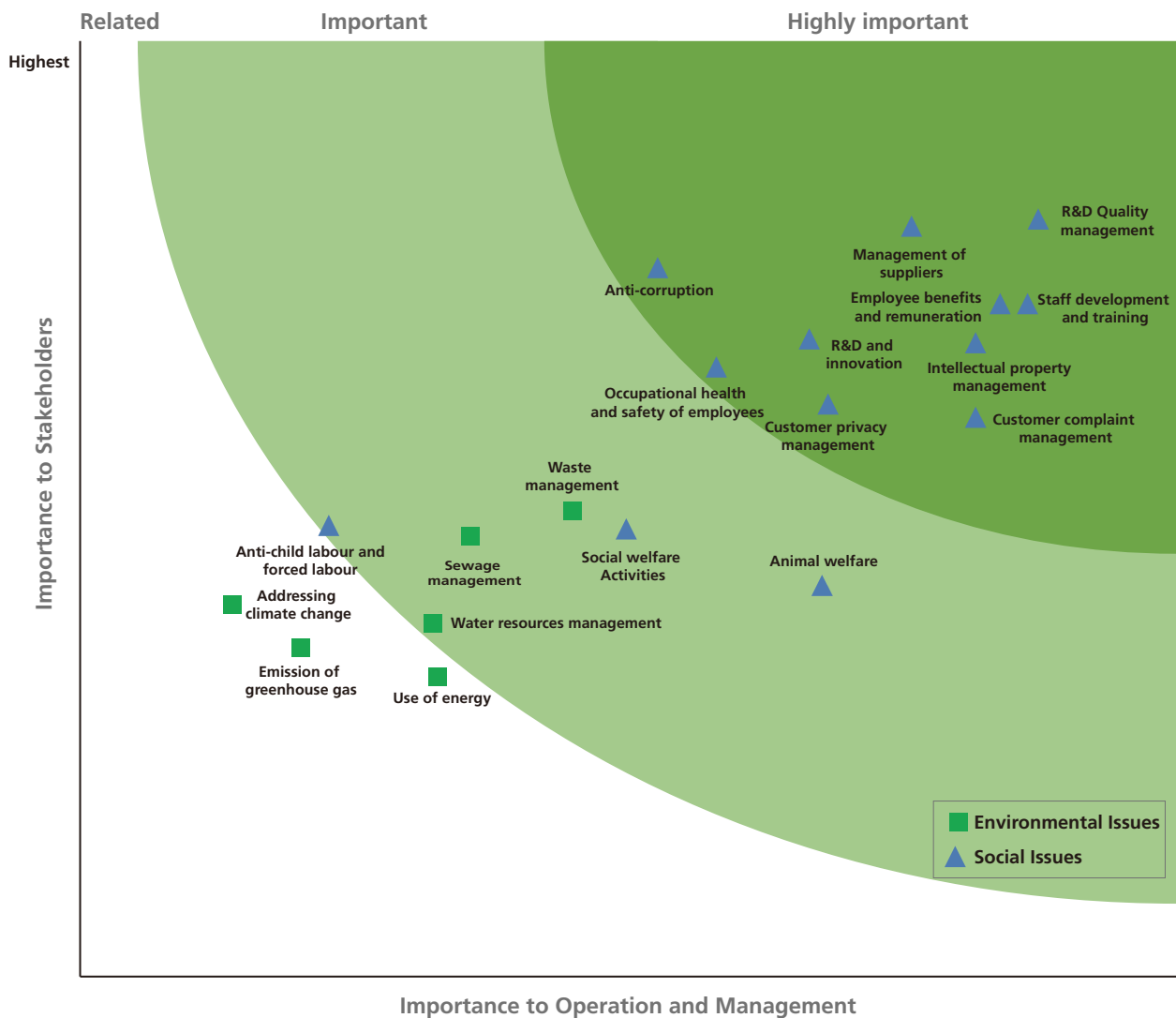
The Company fully considers and effectively responds to the expectations and demands of stakeholders, and works with stakeholders to promote social development and share development results.

Stakeholders	Expectations of Stakeholders	Communication and Engagement Mechanism	Company's Response
Investors	<ul style="list-style-type: none"> • Increase in market capitalization and profitability • Continuous improvement of the Company's environmental and social responsibility performance 	General meeting, information disclosure, company website	<ul style="list-style-type: none"> • Regularly publish reports, truthfully and fully disclose information, strive to improve performance and create profits • Improve corporate governance and risk management, convene general meetings, strengthen investor relations management, and strive to improve environmental and social responsibility management
Customers	<ul style="list-style-type: none"> • Outstanding product quality • Safeguard legal interests 	Enter into contracts and agreements, customer satisfaction survey	<ul style="list-style-type: none"> • Provide high-quality products and services • Establish a sound customer service system and a customer feedback and complaint mechanism
Employees	<ul style="list-style-type: none"> • Safeguard employee remuneration and benefits • Care for employee safety and health • Provide fair promotion and development opportunities • Improving communication mechanism and participating in company management 	Labour contract, employee satisfaction survey	<ul style="list-style-type: none"> • Strictly abide by the terms of labour contracts and improve the remuneration and welfare system • Provide a safe and healthy working environment • Provide employee development channels and organise employee training • Provide equal communication channels
Government	<ul style="list-style-type: none"> • Operate in compliance with laws and regulations and implement national policies 	Participate in government-related conferences	<ul style="list-style-type: none"> • Strictly abide by relevant laws and regulations, continue to strengthen corporate compliance management, and respond to relevant national policies
Suppliers	<ul style="list-style-type: none"> • Honest, fair and impartial cooperation, mutual benefit and win-win situation to facilitate industry development 	Enter into contracts and agreements, hold bidding and supplier meetings regularly	<ul style="list-style-type: none"> • Adhere to open and transparent business principles, actively perform contracts and agreements, implement an open and transparent procurement model, and develop a responsible supply chain
Peer companies	<ul style="list-style-type: none"> • Fair competition, honest cooperation, transparency and publicity of information • Comply with industry norms and facilitate industrial innovation 	Share and communicate with industry-related research institutes, associations, mainstream media, etc.	<ul style="list-style-type: none"> • Strengthen sharing and cooperation with peers to jointly create a healthy and orderly competition environment • Participate in industrial innovation research, achieve mutual benefit and win-win, make progress together, participate in industry evaluation, and provide suggestions for industry norms

Materiality Analysis

JOINN attaches great importance to communication with stakeholders, establishes an efficient communication and feedback mechanism for stakeholders, listens to the opinions and suggestions of stakeholders such as government departments, shareholders, customers, employees and suppliers through different channels, identifies the feedback and expectations of stakeholders on the Company, improves the Company's ESG performance in a targeted manner, and effectively responds to the needs of relevant parties.

Materiality: In accordance with the requirements of the "ESG Reporting Guide" of the Hong Kong Stock Exchange and other relevant principles and ESG issues of general concern to the industry, the Company identifies and selects ESG issues related to the Company through different forms of communication and communication with various stakeholders. With reference to the process of materiality analysis of the Global Reporting Initiative ("GRI"), the Company collected and recorded the issues of concern to the major stakeholders of the Company and the results of materiality assessment of each issue through questionnaires, interviews and other forms, and prioritised the selected issues to understand the importance of ESG issues to internal and external stakeholders, determined the substantive (important) issues of the Company in environmental, social and governance aspects, and disclosed them in the report. (See below chart)



ESG Responsibility Management

List of material topics in JOINN Laboratories ESG Report 2022

Highly important

- | | | | |
|-------------------------------------|--|--------------------------------|--------------------------------------|
| 1. R & D quality management | 2. Supply chain management | 3. R & D and innovation | 4. Employee development and training |
| 4. Intellectual property management | 5. Employee benefits and remuneration | 6. Customer privacy management | 7. Customer complaint management |
| 8. Anti-corruption | 9. Occupational health and safety of employees | | |

Important

- | | | | |
|--------------------------------|---|----------------------|-----------------------|
| 10. Animal welfare | 11. Social welfare activities | 12. Waste management | 13. Sewage management |
| 14. Water resources management | 15. Anti-child labour and forced labour | | |

Related

- | | | |
|-------------------|-------------------------------|--------------------------------|
| 16. Use of energy | 17. Addressing climate change | 18. Emission of greenhouse gas |
|-------------------|-------------------------------|--------------------------------|

1. Empowering Customers

1.1 Innovative R&D

We are committed to providing innovative services to support our customers' most pioneering and complex new drug discovery projects in China and even globally. To achieve this goal, JOINN has been continuously investing to improve its service capabilities and actively participating in major government-backed research projects. Such investments have allowed us to remain at the forefront of the latest technology trend in our industry, develop novel solutions for our customers and maintain our competitive position. We strive to further enhance our technical capabilities through internal R&D, cooperation with universities and research institutions, collaboration with customers and development and improvement of technologies obtained by us.

We actively participated in and organised industry conferences and forums. During the Reporting Period, we participated in around 20 times industry conferences in the form of speeches and participation in exhibitions, and participated in industry academic exchanges (online + offline). In addition, the Company participated in the drafting and revision of industry standards and guiding principles, translated and compiled industry-related professional books, published academic papers related to industry development, applied for industry-related technical patents, etc., and actively promoted the development and progress of the industry. During the Reporting Period, we co-organised the following industry activities to promote the development of the industry:

- Seminar on the Guiding Principles for Pre-clinical Safety Evaluation of ICH Biological Products (S6);
- Beijing Drug Metabolism and Pharmacokinetics Academic Forum;
- The Fifth Academic Seminar on Drug Toxicology and Safety Evaluation of Jiangsu Society of Toxicology.

In terms of intellectual property management, the Company has formulated the "Intangible Assets Management System", designated dedicated personnel to be responsible for the management of intellectual property rights and establish files. The Company continued to improve the construction of patent and trademark management systems, established an effective talent incentive mechanism, and encouraged innovation. We continue to increase investment in technology development, enhance independent innovation capabilities, ensure independent research and development of process equipment and key generic technologies and introduce digestive absorption and re-innovation, and strive to form indigenous intellectual property rights and core technologies.

The Company's existing intellectual property rights include invention patents, appearance patents, utility model patents, software copyrights and trademarks. JOINN Laboratories submitted 15 invention patent applications and 9 utility model patents in 2022, all of which were accepted. JOINN Laboratories was granted 5 software copyright licences.

The Company carries out patent mining and layout according to the needs of technology research and development and prediction of future market. In 2022, we organised more than 10 intellectual property training sessions to carry out training on basic knowledge of patent information, writing and reply of technical disclosure, use of patent search tools, patent search methods, patent excavation methods and patent layout methods.

Looking forward, the Company will strive to form an intellectual property working system and an effective operation mechanism suitable for its own business development and technology research and development, and actively carry out independent research and development and introduce digestion, absorption and re-innovation. The Company has reached the advanced level of the industry in terms of investment, output, ownership and industrialization of intellectual property, and strives to build the Company into an innovative enterprise with strong intellectual property awareness, innovative vitality, remarkable transformation effects and effective protection measures.

1. Empowering Customers

1.2 Product Responsibility

The Company adheres to the purpose of “serving drug innovation, focusing on safety evaluation and monitoring of the whole life cycle of drugs”, as well as the vision of “ensuring the safety of patients’ medication and safeguard the health of human being”. We have formulated the “Standard Operating Procedures for Ordering Laboratory Animals”, the “Standard Operating Procedures for Quality Control of Laboratory Animals”, the “Regulations on Project Management Process Management”, among other systems, and established a golden industry chain of unique pre-clinical drug research services, clinical trials and related services, breeding and sales of high-quality research model animals, and customization services of gene editing model research model animals, which can provide customers with one-stop high-quality services. Some of our subsidiaries, such as JOINN Suzhou, have obtained ISO 9001 quality management system certification.

The Company’s quality management system documents consist of four levels:

1. The Quality Manual, which is a programmatic document for the operation of the Company’s quality management system and a thematic document for the management system. It mainly explains the Company’s quality policy, objectives, requirements of various elements of the management system, division of responsibilities, implementation methods and the fundamental standards that all quality work must follow;
2. Procedural Documents, which are supporting documents of the Quality Manual, which stipulates the purpose, scope, responsibilities, requirements, systems and procedures of the activities and quality activities that can only be carried out by each department and position, and are the guiding documents that relevant personnel should strictly follow when carrying out quality activities;
3. Standard Operating Procedures/ Policies, which are specific implementation rules in inspection activities;
4. The Form of Quality Records and Technical Records, which are the original evidence and carrier to verify the effective operation of the management system and ensure that all quality activities and technical activities can be fully repeated.

The research basis of the Company’s new drugs are from the legal norms, technical standards and technical guiding principles of domestic and international regulatory agencies and industry organisations, such as NMPA, US FDA, EMA, OECD, ICH, ISO etc.

The core of the Company’s services is to scientifically evaluate the safety and effectiveness of drugs in strict accordance with the Good Laboratory Practises for Non-Clinical Laboratory Studies and other laws and regulations, reduce the risk of drug research and development of the principal, improve the efficiency of drug research and development of the entrusting party, and support the scientific review of the regulatory department, so as to support the continuous innovation of the pharmaceutical industry.

1. Empowering Customers

- **Pre-clinical drug research services:** Pre-clinical drug evaluation services are technical services with strict regulations and management, which not only require good technical conditions but also comply with relevant quality management standards. In order to guarantee the quality and efficiency of services, combining with regulatory requirements and own characteristics, the Company has established relevant modes of service:
 - 1) **Acceptance of engagement:** The Company's professional marketing team is responsible for contacting customers, understanding customer needs, formulating research plans, quotation and signing contracts with technical departments.
 - 2) **Carry out tests and provide reports:** The Company's technical department is responsible for organising tests and numbering each test, formulating test plans, preparing test materials, conducting in vivo and/or in vitro tests, processing data as well as preparing and submitting summary reports in accordance with the regulations and SOP requirements;
 - 3) **Archive of data:** After the test, we archive all original records to ensure the integrity of the test data.
 - 4) **Registration support:** After completion of the test, the Company shall cooperate with the regulatory department to conduct on-site inspection to verify the authenticity and completeness of the data. When necessary, the Company shall conduct technical discussions with the principal and the regulatory department in the process of new drug evaluation.
- **Clinical trial and related services:** The clinical business of JOINN mainly provides early-stage clinical trial services (clinical trial stage I and BE trial), including regulatory/registration business, medical writing business, clinical monitoring/audit business, data management and statistics business, and clinical trial institution services. Combined with JOINN's clinical biological sample analysis business, JOINN provides customers with a one-stop service model from pre-clinical evaluation to clinical trial. The Company has formulated strict processes of the procurement business and aspects from procurement application and approval to quotation request, selecting suppliers and payment are all effectively managed and controlled.
- **Breeding and sales of research model animals:** The Company has established a scientific research model animals procurement and supply system, especially, it applies strict control of the quality of research model animals. In addition, the Company has also formulated strict processes of the procurement business, and aspects from procurement application and approval to quotation request, selecting suppliers and payment are all effectively managed and controlled.

In terms of marketing and promotion, the Company has formulated systems such as the "Administrative Measures for Marketing and Publicity Products", the "Administrative System for Press Release" and the "Administrative System for the Use and Management of LOGO of the Company", which stipulate the use of promotional materials and LOGO/trademark. The Company has a strict approval and publication system to ensure the compliance of market promotion.

During the Reporting Period, there was no violation of production and service responsibility which had material impact on the Company and no product sold was subject to recalls for safety and health reasons.

1. Empowering Customers

1.3 Customer Service

In terms of customer service management, we have established the “Customer Service Working Procedures”. When customers clearly expressed dissatisfaction with the Company’s work quality, relevant departments are responsible for registering customer complaint information into the “Customer Complaint Handling Record”, and implementing it in accordance with the Customer Complaint Handling Process.

In terms of customer satisfaction survey, we collect customers’ feelings, opinions, suggestions and other relevant information on the quality of testing work and service, and register them in “the Customer Satisfaction Survey Record” in a timely manner. Information collection methods include questionnaire, telephone survey, symposium, customer visit reception, etc. The content of the satisfaction survey includes whether the service methods and service items meet customer requirements, whether the summary reports are provided on time, whether the test results are accurate, whether the communication with customers is timely, smooth and whether the work is efficient, etc. We summarise customer feedback, include these in the “Customer Feedback Handling Record”, and then analyse customer feedback, and determine the final handling opinions based on the needs of the management system operation improvement. The responsible department shall implement the handling opinions and notify customers the handling situation. During the reporting period, the Company did not receive any customer complaints.

In terms of customer privacy and confidentiality, the Company has formulated the “Administrative Measures for Sales Customers”, which requires that confidential documents/ data in computers must be password-protected, confidential documents should not be brought to places unrelated to work, confidential documents/ data should not be discussed and transferred in public places, and confidential documents/data should not be divulged to unrelated personnel inside and outside the Company in any way. We set up the management authority of customer information in line with the actual project, and the project system is managed on a double-blind basis. The Company’s systems are all operated in an internal network, the system is equipped with access control, password strategy setting, internal and external firewall isolation and other functions, and has relevant SOPs and verifications. The computer system is evaluated at class III protection or class II protection. At the same time, the Company has also set up system access control, internal and external firewall isolation, web firewall against script attack, daily online backup and weekly offline tape backup to protect customer information.

1. Empowering Customers

1.4 Supply Chain Management

The suppliers involved by the Company mainly include research model animals, reagent consumables, engineering infrastructure, instruments and equipment, IT (application system, software/ hardware), MRO, services, etc. We have formulated the Standard Operating Procedures for Supplier Qualification Review, the Basic Management System for Procurement Business, the Supplier Management Regulations and other systems to regulate supplier management and establish a supplier market access and evaluation system.

In terms of supplier access management, we would first organise selection of a sufficient number of suppliers as potential partners for cooperation, conduct written investigations on newly developed suppliers, and require suppliers to fill in the "Supplier Information Registration Form" to understand the background, qualification, production capacity, quality service quality, integrity and compliance management of suppliers, and organize on-site inspections to confirm whether they have the ability to provide materials and services that meet our requirements on cost, delivery period, quality, as well as integrity and compliance operation. Subsequently, the Company will organize appraisals on preliminary-selected suppliers, the contents of which include the evaluation of suppliers' qualifications, quality level, delivery capability, technological capability, service capability and performance capability. The Company has established six procurement methods:

- **Single-source procurement:** designate suppliers to ensure that the price is reasonable and on most preferable commercial terms;
- **Price inquiry and comparison:** select at least three suppliers and choose the one with the lowest price quotation;
- **Competitive negotiation:** technical score plus business score, the supplier with the highest comprehensive score will be selected;
- **Invitation for tendering:** inviting suppliers to participate in quotations based on business needs and nature, and the supplier with the highest comprehensive score will be selected;
- **Annual framework agreement:** to determine the supplier to be selected based on 1-3 procurement methods;
- **Order purchase:** implementation of the annual framework agreement.

In terms of supplier performance assessment and grading management, the Company's supplier management department organizes and establishes a supplier review team to conduct performance assessment on suppliers with large annual procurement amount. The supplier evaluation team shall review the suppliers based on their cooperation with us, focusing on scoring their material quality, price level, delivery, service, etc.

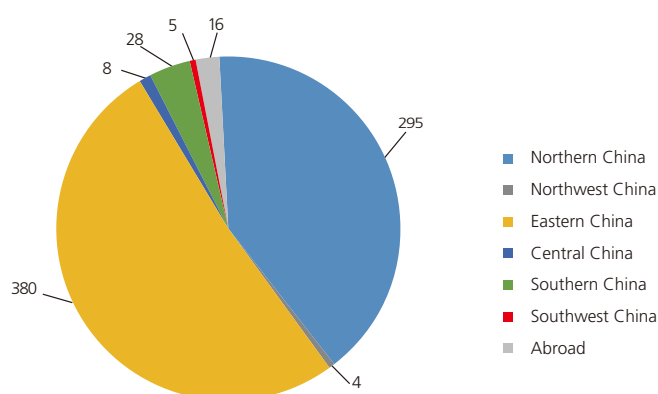
1. Empowering Customers

With regards to the audit of suppliers, the Company will audit the suppliers of research model animals annually, and the Permit for Production of Research Model Animals, Quality Certificate of Research Models, Research Model Files and relevant quarantine inspection records of purchased research model animals will be inspected. All research model animal tests shall strictly follow the relevant welfare system. The operation in relation to the research model animal is subject to the approval of the ethics committee and follows the 3R principle, namely the replacement, reduction and refinement of the use of the research model animal on the premise of meeting the regulatory and scientific requirements. After the test, the research model animal will be handled reasonably according to the purpose of the test, such as transferring to the reserve research model animal for long-term feeding or organizing pathology inspection after euthanasia. In terms of GLP regulations, the Company has defined the types of suppliers within the scope of GLP regulations, and formulated corresponding written supplier questionnaire (written audit letter).

In terms of supplier management, the Company has established rules for sourcing, pre-approval and access, and performance assessment, established SOP, and realized online data/approval through OA office platform, with information traceable and accessible. In addition to the supplier admission process, we continually monitor the environmental and social performance of our suppliers in other procedures such as the provision of products or services and performance appraisal, and will consider replacing suppliers if relevant risks are identified. The Company will consider the environmental performance of the products when selecting suppliers, ensure that the purchased products meet the requirements of the relevant environmental indicators, and give priority to the purchase of environmentally friendly products under the same conditions.

As of the end of 2022, the Company had a total of 736 suppliers. The below diagram sets out the number of suppliers by geographical distribution:

The 2022 Regional Distribution of Suppliers of JOINN (Unit)



In the future, in terms of supplier management, the Company will continue to promote the implementation of supplier performance assessment and grading management, continue to improve supplier files, formulate and optimise supplier management systems, and further improve supplier management.

2. Responsible Operation

2.1 Clinical Research

JOINN supports customers in drug development in an all-round manner, thereby providing innovative treatment methods for patients. The laws and regulations and ethical standards we follow in conducting clinical research include, but are not limited to:

- "Declaration of Helsinki"
- "International Ethical Guidelines on Biomedical Research Involving Human Subjects"
- "Drug Administration Law of the PRC"
- "Vaccine Administration Law of the PRC"
- "Good Clinical Practise for Drug Clinical Trials"
- "ICH GCP E6(R2)"
- "Guidelines for the Maintenance of Essential Documents for Drug Clinical Trials"
- "Administrative Measures for Drug Registration"
- "Procedures for Verification of Drug Registration (Trial)"
- "Key Points for Drug Registration Verification and Determination Principles (Drug Clinical Trials) (Trial),"
- "Regulations on the Administration of Drug Clinical Trials Institutions"
- "Guiding Principles for Ethical Review of Drug Clinical Trials"
- "Good Pharmacovigilance Practise"

The Company has established an independent quality control department to conduct quality control on clinical trials. The quality control department of the Company conducts systematic and independent inspection on the relevant activities and documents of the quality control party to assess whether the implementation of relevant activities, the recording, analysis and reporting of data are in compliance with the test plan, standard operating procedures and the requirements of relevant laws and regulations. The quality control department formulates annual quality control plans and clinical trial quality control plans, conducts quality control activities based on the quality control plans, and regularly reviews the master files of clinical trials (TMF). The quality control department issues quality control reports or feedback forms on rectification of problems based on the inspection results, and urges and follows up on the rectification of the quality control parties.

In terms of clinical trial quality supervision, for each intervention or non-intervention clinical trial project undertaken by the clinical operation department, the project manager or designated personnel, the quality control department and the supervisor conduct collaborative supervision and inspection, and prepare a collaborative supervision and inspection report. Generally, the collaborative supervision shall be regular or initiated by cause. The project manager and the quality control department review the test master files of clinical trials (TMF) on a quarterly basis, and issue follow-up review records in a timely manner based on the review results, and urge relevant personnel to rectify the issues found in a timely manner. The quality control department conducts quality control work at the trial preparation stage, implementation stage and completion stage according to the clinical trial quality control plan. In 2022, no authenticity problems were found in the quality audit of the Company, and the test was carried out in compliance with the standardised requirements of the test plan.

2. Responsible Operation

2.2 Animal Welfare

The Company's business involves reproduction and sale of research model animals. The main species of the research model animals are mice, rats and non-human primates. Many lifesaving advances in medicine and human health were drawn from the scientific discoveries using research model animals. We are committed to helping improve the quality of human life while ensuring the highest standards of benefits for research model animals as far as possible. We have set up an animal welfare committee to review each trial plan. At the same time, we have formulated animal welfare and IACUC policies to identify and deal with relevant issues in a timely manner. As at the end of 2022, we have not received any objection and concern from animal protection organizations. As one of the world's leading providers of non-clinical drug development services and other services toward human safety, we accept both the legal and the moral obligation to be a leader in assuring that research model animals in our facilities are treated in accordance with all applicable rules and with high standards of respect and compassion. In addition to laws and ethics, this responsibility is also important from a scientific perspective as non-compliance with these rules and standards would affect the scientific professional conduct. We also follow the principles below:

- We treat our research model animals humanely and with respect. We follow our internal policy on research model animal welfare, and respect the contribution of our research model animals to lifesaving development.
- We strictly comply with all applicable laws and regulations for research model animal welfare. We employ alternative scientific methods to using research model animals where appropriate.
- We endeavour to minimise stress or discomfort to research model animals and endeavour to follow the best practise of the industry whenever feasible.
- We comply with the standards and requirements of AAALAC. We train employees who handle research model animals to utilize the best techniques and procedures, and apply consistent control measures to ensure compliance with our internal policies on research model animal benefits.

2. Responsible Operation

2.3 Anti-corruption

JOINN strictly abides by the “Criminal Law of the People’s Republic of China”, “the Anti-Money Laundering Law of the People’s Republic of China” and other anti-corruption and anti-money laundering regulations, and attaches great importance to the establishment of anti-corruption and bribery systems. The Company has formulated the “Anti-fraud and Whistleblowing System” for all staff in the Company’s headquarters and its branches and subsidiaries to stipulate fraudulent acts and anti-fraud measures, and clarify that heads of all of its branches, subsidiaries and departments are the chief person responsible for anti-fraud matters therein. The internal audit department of the Company is responsible for the implementation of anti-fraud work of the Company and its branches and subsidiaries.

In 2022, the Company the Company thoroughly implemented the “Anti-fraud and Whistleblowing System”, signed integrity agreements with customers and suppliers, and promoted anti-corruption work. The Company conducts business ethics audit every quarter, and no relevant abnormal conditions are found after audit.

The Company accepts real-name reporting and anonymous reporting, and sets up effective reporting procedures to ensure smooth whistleblowing channels are in place. We have made public the hotline and email address for reporting fraud. During the year, the Company has added a reporting mailbox independently affiliated to the Audit Committee for reporting fraud complaints.

Reporting hotline: (010) 67869966 forwarded to the Internal Audit Department

Email: audit@joinn-lab.com

Audit Committee whistleblowing email: AuditCommittee@joinn-lab.com

After receiving the report, the internal audit department will record the complaint and report, complete the preliminary verification of the clues within 7 working days, report to the superior and reply to the real-name whistleblower. The internal audit department conducts investigation and evidence collection, investigates and clarifies the facts of fraud, and reports the investigation results to the senior management responsible for the person being reported and the chairman of the Company. If the person being reported is found to have committed fraudulent activities, the Company will conduct unified research and decision, and deal with the person being reported according to the relevant reward and punishment measures in the employee handbook. During the year, the Company did not receive any complaint or report. During the Reporting Period, the Company confirmed that there were no corruption incidents or violations of relevant laws and regulations.

In the “Constitution Publicity Week” in 2022, we provided anti-corruption related training materials to all directors. In addition, we provided employees with the learning of the “Anti-fraud and Reporting System”, the “Code of Conduct and Supervision Regulations on Procurement Operations” and other systems, continuously strengthened employees’ anti-corruption awareness and controlled related risks.

In the future, we will conduct internal training on anti-corruption and integrity for employees from time to time and continue to pay attention to the situation of the reports.

3. Employees and Community

3.1 Employment and Labour Practises

JOINN strictly complies with the “Labor Law of the People’s Republic of China”, the “Labor Contract Law of the People’s Republic of China”, the “Social Insurance Law of the People’s Republic of China”, the “Individual Income Tax Law of the People’s Republic of China”, the “Law of the People’s Republic of China on the Protection of Women’s Rights and Interests”, the “Regulations on Labor Protection of Female Employees”, the “Measures for Public Holidays for National Annual Festivals and Memorial Days”, the “Special Regulations on Labor Security Supervision” and other relevant laws and regulations. In order to attract more talents who meet the Company’s employment standards, we have formulated the “Remuneration Management System”, the “Performance Appraisal Management System, the “Commercial Insurance Welfare System” and the “Social Insurance and Housing Provident Fund Management System”, etc., to continuously improve the talent employment mechanism, so that employee management can be standardized and based on rules and regulations, so as to fuel the Company’s sustainable and rapid development.

In terms of employment, we adhere to the recruitment principles of fairness, openness and impartiality, respect the diversity of employees, and strictly prohibit discrimination based on gender, ethnicity, age, education level, religious belief and disability. We strive to protect employees’ holidays, working hours, equal opportunities, diversity and anti-discrimination, adhere to equal pay for equal work, gender equality, and ensure equal employment opportunities and labour protection for employees of different nationalities, races, genders, religious beliefs and cultural backgrounds.

All recruitment and employment of JOINN strictly abide by the “Contract Law of the People’s Republic of China”, the “Labour Contract Law of the People’s Republic of China”, the “Law of the People’s Republic of China on the Protection of Minors” and other relevant laws and regulations, and we strictly prohibit the employment of child labour and forced labour. During the recruitment process, we conduct strict verification and background checks on the identity certificates provided by interviewees. We treat employees of different nationalities, races, genders and ages equally, and prevent employment discrimination and use of child labour and forced labour. In addition, we encourage employees to report violations. On the basis of protecting the information of whistleblowers, we will immediately investigate and handle them to prevent all violations. We also effectively protect the legitimate rights and interests of employees and make reasonable arrangements for their working hours in accordance with the Company’s system. In 2022, JOINN was not aware of any discrimination, employment of child labour and forced labour.

In terms of employee remuneration, we have formulated the “Remuneration Management System”. The Company’s salary level has been continuously improved based on the principles of external competition, internal fairness, performance-oriented and comprehensive remuneration. The determination of remuneration is mainly based on the value of the position and supplemented by the personal qualifications of employees. The combination of the two sets up promotion channels for different positions. The Company’s remuneration structure includes fixed remuneration, variable remuneration, subsidies and equity bonus. We pay full remuneration to employees on time which is subject to adjustments on an annual basis according to the annual work targets. With the increasing demand for key technical talents, we plan to continuously improve the competitiveness of our compensation and benefits in the future, so as to attract more talents and strive to improve operational efficiency.

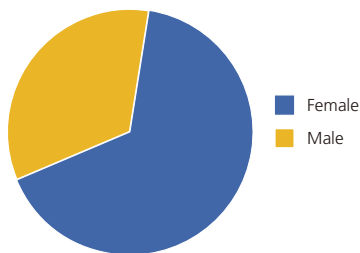
In terms of employee resignation, we protect the rights and interests of resigned employees in accordance with the law, pay the salary of the actual number of working days in the month of resignation according to the regulations, and assist in the transfer of files and social insurance relations. Before the resignation of an employee, we will conduct an departure interview with him/her to understand the reasons for his/her resignation, his/her opinions and suggestions on the work involved, and his/her opinions and suggestions on the management of the Company. We regularly analyse the reasons for his/her resignation and make targeted improvement.

3. Employees and Community

For employee promotion, we have formulated the “Performance Appraisal Management System” to promote consensus between the management and employees on the goals and how to achieve them, and to encourage employees to strive for excellent performance. The performance management process is made up of stages including performance goals, coaching, evaluation, feedback and application of performance results. The levels of appraisal results are divided into excellent, good, medium and unqualified. Based on the performance appraisal results, we incentivize employees in the forms of bonus, promotion, salary adjustment, reward and punishment, commendations, etc. The Company has set up ranking standards. In the first quarter of each year, all employees will be graded and scored to determine the rank and position in the new year.

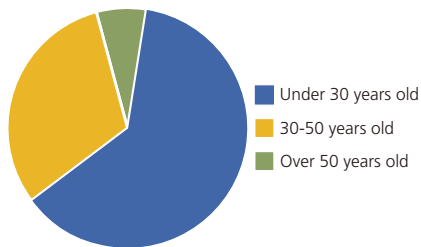
As of 31 December 2022, the Company had a total of 2,788 employees, including 8 part-time employees. Relevant indicators of the Company's employees in 2022 are as follows:

Distribution of Employees by Gender in 2022



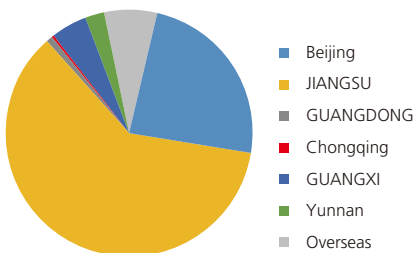
Gender	Number	2022	2021
		Percentage	Percentage
Female	1,844	66.1%	65.2%
Male	944	33.9%	34.8%

Distribution of Employees by Age in 2022



Age	Number	2022	2021
		Percentage	Percentage
Under 30 years old	1,742	62.5%	62.8%
30-50 years old	863	31.0%	31.7%
Over 50 years old	183	6.5%	5.5%

Distribution of Employees by Region in 2022



Region	Number	2022	2021
		Percentage	Percentage
Beijing	671	24.1%	26.9%
JIANGSU	1,698	60.9%	62.1%
GUANGDONG	18	0.6%	0.5%
Chongqing	10	0.4%	0.4%
GUANGXI	131	4.7%	1.8%
Yunnan	69	2.5%	—
Overseas	191	6.8%	8.3%

3. Employees and Community

Employee Turnover in 2022	
Name of Indicators	Employee turnover rate (%)
By gender	
Male	33.9%
Female	26.0%
By age	
Aged 30 and below	36.8%
30-50 years old	14.7%
Over 50 years old	18.6%
By region	
Beijing	24.9%
Jiangsu	30.7%
Guangdong	20.0%
Chongqing	0
Guangxi	31.8%
Yunnan	0
Overseas	32.0%

In 2022, the Company did not have any violation in relation to remuneration packages, as well as violation in relation to working hours and holidays.

3. Employees and Community

3.2 Employee Care

JOINN believes that the happiness and passion of employees are the driving force to support us to become a great company. JOINN adheres to the concept of “people-oriented”, provides care and assistance to employees through the establishment of a diversified welfare system, and continuously improves the sense of happiness of people of JOINN.

In terms of statutory benefits, we have formulated the “Social Insurance and Housing Provident Fund Management System”. According to relevant national laws and regulations, the Company is required to pay social insurance and housing provident fund for employees. Social insurance includes pension insurance, medical insurance, unemployment insurance, work-related injury insurance and maternity insurance.

In terms of corporate benefits, we have formulated the “Commercial Insurance Benefit System”. Commercial insurance is divided into three categories, namely supplementary commercial insurance, commercial insurance for interns and safe production liability insurance, mainly covering medical insurance, accident insurance, liability insurance and so on. With these commercial insurances, employees are offered with additional compensation for medical purpose and upon occurrence of accidents.

In addition, the Company's benefits also include meal allowance, annual physical examination, holiday benefits, etc., and employee dinner, travel, sports activities, wedding/birthday celebration, condolence for the decease of immediate family member, and condolences to employees in difficulties organised by various departments. Employee holidays provided by the Company include sick leave, work-related injury leave, personal leave, marriage leave, funeral leave, maternity leave, childcare leave, single child care leave, annual leave, incentive leave, etc.

For employee care, we encourage our employees to be united, positive and helpful to others. We offer employees with abundant and delicious working meals, clean and tidy dormitories, quiet and colorful study rooms, and cosy maternity rooms. We regularly hold birthday celebrations and reserved the entire theatre for our employees to watch movies, and encouraged all departments to organize activities such as travel and technical competitions. At the same time, employees could report various situations and work needs to their superiors or the human resources department at any time.

In order to enhance the sense of belonging of employees, the Company has carried out a series of employee care activities to provide employees with a platform to show themselves and communicate, meet the spiritual needs of employees, and improve their happiness.

- **Birthday gifts for employees:** The Company sent blessings to employees on their birthdays and prepared birthday gifts carefully; all departments are encouraged to organize activities such as tourism development technical competitions within the scope of policies.
- **Work meal and dormitory:** We provide employees with abundant and delicious work meals, clean and tidy dormitories, quiet and colorful books, cosy maternity rooms, and holiday condolences.
- **Annual meetings and travel:** Due to the policies under the pandemic, annual meetings were held online, and small-scale travel expansion activities were organized by departments on an online basis.
- **Employees' needs:** Employees can report all kinds of situation and work needs to their superiors or the human resources department by mail, letter or face-to-face.

3. Employees and Community

3.3 Development and Training

With the further economic development of China, there has been an increasingly fierce competition among enterprises. In order to stand out from the competition, an enterprise must continue to sharpen its own competitive edges. Ultimately, the competition among enterprises is the competition for talents, which in turn is the competition in corporate trainings in some sense. The Company attaches great importance to the training, the improvement of the overall quality of employees and the recognition of corporate culture. It is the fundamental means for the Company to achieve development by building the Company into a learning-oriented organization and improving the core competitiveness of the Company, so as to ultimately achieve a “win-win” situation between the Company and its employees.

The Company sticks to the co-development of itself and its employees, established a talent development and training system, improved the knowledge system and skill level of employees, and facilitated corporate training management and talent development, so as to promote the sustainable development of the Company. We have formulated “Standard Operating Procedures for Staff Training and Assessment and other systems to continuously improve the Company’s training system”. The Company’s training mainly includes induction training for new employees, on-the-job training and off-job training.

After joining the Company, new employees are required to participate in employee introduction trainings, which covers the Company’s development history, business performance, introduction of corporate culture and products, introduction of industry conditions, explanation of the Company’s system, professional standards and work skills. Orientation training enables new employees to integrate into the Company and adapt to their positions as soon as possible.

For on-the-job employees, the Company would engage experts and celebrities from time to time to provide on-site academic guidance and professional speeches according to the training needs submitted by the department, so that employees can obtain knowledge and skills training. In addition, the Company invites job-related professional publications and books for employees to keep them abreast of the latest information of the industry and their positions.

From time to time, the Company selects/ recommends employees to participate in off-job training such as professional qualification training, academic education and external learning, and dispatches employees to participate in special training meetings, seminars, technical exchanges, new product release and other activities according to business needs.

3. Employees and Community

In 2022, the Company carried out a series of training activities to effectively improve the knowledge and skills of employees, such as:

- GLP Regulation Requirements – SD Duties
- Irregularities, Deviation, CAPA-Quality Improvement Basic Knowledge Understanding
- Computerisation system
- Fire safety knowledge training for new employees
- Principle and application of mass spectrometry technology
- GLP Bioanalytical laboratory test records writing notes
- Testing methods verification and analysis points
- Management of molecular imaging laboratories under GLP conditions
- Research on DMPK in genes and cell therapy drugs
- Antibody pharmacokinetic studies

In 2022, the Company trained a total of 21,944 employees, with a total of 74,843 training hours. The percentage of training hours by gender and level is shown in the following table:

Overview of Employee Training			
Name of Indicators	Number of trainees in 2022	Percentage of employees trained by corresponding categories	Average training hours (hours)
Male employees trained	6,987	100.0%	23.17
Female employees trained	14,957	100.0%	28.47
Non-management employees trained	21,243	100.0%	27.03
The management trained	697	100.0%	13.66

In the future, we will adopt a more flexible approach for staff training and empowerment and carry out various training tasks based on the development characteristics of the Company and the industry.

3. Employees and Community

3.4 Health and Safety

JOINN strictly abides by the “Production Safety Law of the People’s Republic of China”, the “Law of the People’s Republic of China on the Prevention and Control of Occupational Diseases” and other laws and regulations to ensure the occupational health and safety of employees. In order to ensure the safety of employees’ behaviour, the Company has formulated safety policies and regulations covering all operation processes, and conducted regular training. Our safety policies include OHS Policy 1: OHS Member Composition and Basic Duties; “OHS Policy 2: Personnel Occupational Protection Programme”; “OHS Policy 3: Occupational Health and Safety Regulations and other related policies”. Certain subsidiaries of the Company, such as JOINN Suzhou, have obtained ISO 45001 Occupational Health and Safety Management System certification.

Some employees of the Company may be exposed to hazardous chemicals such as ammonia, formaldehyde, methylic acid, acetic acid, acetonitrile, ozone, xylene and acetone in individual laboratories, and may be affected by noise when testing the noise generating units. Therefore, the Company takes the following protective measures for employees who may be exposed to hazardous substances:

- **Carry out regular inspection on environmental occupational hazards every year:** Through a qualified third-party occupational hazard inspection unit, the Company makes objective and true inspection, evaluation and reasonableness of occupational hazards in the process of production and operation of the Company, and provides feasible suggestions and guidance for the Company’s occupational health management;
- **Regularly distribute occupational health protective supplies to employees involved in occupational hazards:** distribute suitable occupational protective equipment according to the needs of employees’ occupational hazard protection to eliminate or reduce injuries;
- Strengthen the regular training on occupational health and safety of employees to enhance their awareness of protection.

In the future, we plan to continue to strengthen the training on biosafety laws for new employees involved in trial operations, strengthen regular drills on biosafety, and provide relevant employees with training on safety operations from time to time according to the needs of experiments, so as to continuously protect the occupational health and safety of employees.

In 2022, 2021 and 2020, JOINN Laboratories had zero work-related fatality. In 2022, the working days lost due to work-related injuries was 262 days¹, and there were no incidents of fines or prosecutions due to non-compliance with health and safety-related laws and regulations.

¹ Calculated based on 8 working hours per day

3. Employees and Community

3.5 Social welfare

Since its establishment, JOINN has always been committed to social responsibility. The Company participates in social welfare in the optimal form in line with the actual needs of the society, pays close attention to social dynamics, and actively participates in social welfare according to the needs of the society, increasing the momentum of harmony and win-win situation for the society.

In 2022, JOINN Laboratories donated RMB10,000 to the Beijing Yicheng Cooperation and Development Foundation to support the foundation to carry out a series of public welfare projects such as science and technology public welfare, industrial public welfare, livelihood public welfare and green public welfare.

In order to allow pharmaceutical R&D practitioners to have in-depth communication with the Company, share our experience and let JOINN shine with a different glory, in July 2022, we launched JOINN Webinars, and 5 series of special topics were successively promoted, including small nucleic acid drugs, mini-pigs, young animals, impurity safety and gene therapy, with a total of 12 live broadcasts. As an online charity salon, JOINN's experience was shared among pharmaceutical R&D practitioners.

JOINN Webinar 2022 Live Streaming Topics

Small Nucleic Acid Series (I): siRNA drug preclinical pharmacokinetic studies

Small Nucleic Acid Drug Series (II): Non-clinical Safety Evaluation Strategy for Small Nucleic Acid Drugs

Mini-pig series (I): Application status and model selection considerations of mini-pigs in preclinical drug safety assessment

Mini-pig series (II): Application of mini-pigs in skin drug efficacy, toxicology evaluation and its experimental design and management principles

Young animals: non-clinical safety evaluation of paediatric drugs

Impurities safety: non-clinical safety evaluation studies of drug impurities

Genetic Therapy Series (I): AAV Drug Manufacturing and Quality Control Research in Genetic Therapy IIT Research

Genetic Therapeutic Series (II): Research on Quality Control of Genetic Therapeutic Drugs and Introduction of Relevant Regulations

Genetic Therapeutic Series (III): Efficacy Evaluation of Genetic Therapeutic Products from Oncology to Rare Diseases

Genomic Therapy Series (IV): AAV Vector Pre-clinical Pharmacokinetics Study

Genetic Therapy Series (V): Focus points and case analysis of non-clinical safety evaluation of gene therapy products

Genetic Therapy Series (VI): Clinical Testing Strategy of Genetic Therapy Products

4. Green and low-carbon development

Attaching great importance to environmental protection, the Company stresses the importance of environmental protection to corporate social responsibility and sustainable development and actively promotes the establishment, continuation and implementation of an environmental protection system. The environmental protection guidelines adopted by the Company is “insistence on environmental protection and social sustainability, prevention of pollution, active promotion of energy conservation and emission reduction, protection of ecological diversity and establishment of eco-friendly communities”. Environmental protection is one of the important social responsibilities of corporate citizens. On the basis of emphasizing the bottom line of legal and compliant operation, the Company takes all necessary measures to protect the environment and prevent pollution. Clean production, energy conservation and emission reduction are vigorously promoted. During project construction, the Company must consider the potential environmental impacts and make persistent efforts in environmental improvement to ensure that 100% environmental compliance and standardized discharge of pollutants are achieved for its business activities. Certain subsidiaries of the Company, such as JOINN Suzhou, have passed the ISO14001 environmental management system certification.

4.1 Emissions Management

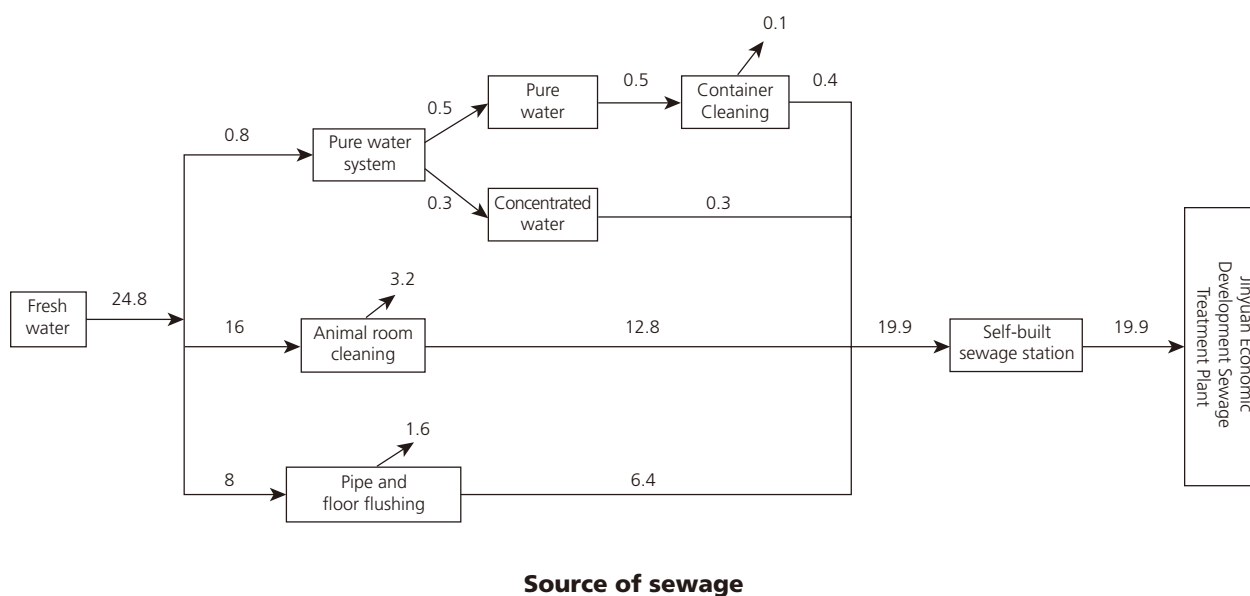
The Company strictly complies with the environmental protection policies, laws and regulations of national and local governments, strictly complies with the “Environmental Protection Law of the People’s Republic of China”, the “Law of the People’s Republic of China on the Prevention and Control of Water Pollution”, the “Law of the People’s Republic of China on the Prevention and Control of Atmospheric Pollution” and the “Law of the People’s Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste”, and actively takes measures to manage emissions and fulfill environmental responsibilities. JOINN will continue to promote the concept of energy conservation, consumption reduction, green and environmental protection, and reduce emissions from the source. We will always take the promotion of emission management and environmental protection process as our long-term goal, and ultimately realize the circular economy concept and follow the path of sustainable development.

During the Reporting Period, the environmental management personnel of the Company carried out a full-coverage inspection on the environmental management of the Company, strictly controlled the discharge of sewage, wastewater, noise, exhaust gas and greenhouse gases in the Company’s factory area, and we also engaged a third-party testing company to carry out regular tests. There were no violation of environmental laws and regulations that had a significant impact on the Company during the Year.

4. Green and low-carbon development

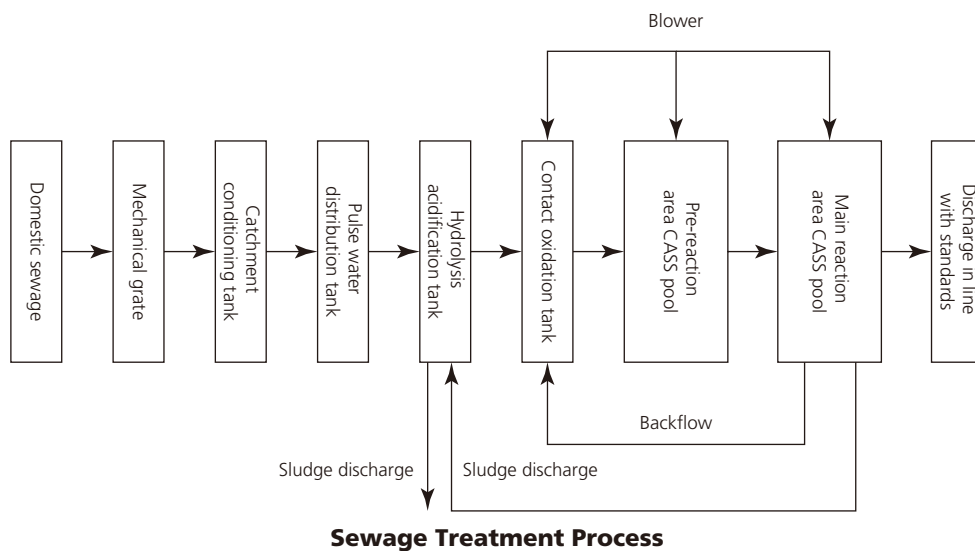
Wastewater Management

The Company's drainage mainly includes domestic sewage and production wastewater, of which the production wastewater is mainly the wastewater from cleaning of animal houses and laboratories, water consumed for washing of pipeline and ground, and the discharge of production wastewater is 19.9 m³/d (concentrated water is produced during the pure water preparation process, and the water production rate is 60%). In 2022, the Company discharged a total of 91,800 tonnes of wastewater.



4. Green and low-carbon development

In the process of sewage discharge, the Company complies with the relevant standards in the “Wastewater Quality Standards for Discharge to Municipal Sewers” (GB/T31962-2015), the “Integrated Wastewater Discharge Standard” (GB8978-1996), the “Water Pollution Discharge Standard for Medical Institutions” (GB18466-2005) and “Discharge limits for water pollutants discharged into the public sewage treatment system” in the Integrated Discharge Standard of Water Pollutants (DB11/307-2013), we have constructed our own wastewater treatment facilities (scale: 200m³/d, Phase I design treatment scale: 120m³/d), adopt advanced wastewater treatment process (septic tank pretreatment – wastewater conditioning tank – hydrolysis acidification – oxidation – secondary sedimentation tank – sterilization tank – activated carbon adsorption – discharge), and use 10% sodium sulfite plus 4% glycerin mixed solution as deodorant, the activated carbon filter tower in the treatment equipment is replaced once every 1-2 years based on the quantity of active chlorine. The Company conducts monthly sewage sampling and testing to ensure that the discharge standards are met.



In the future, the Company will continue to strengthen the management of waste water treatment and discharge, pay attention to the use of disposal facilities, timely replace and update aged equipment, and increase the number of pollutant deepening treatment facilities, such as air flotation pond for sewage treatment and sewage deodorization tower, to improve the efficiency of waste water treatment.

4. Green and low-carbon development

Exhaust gas and greenhouse gas emission control

The Company strictly controls the exhaust gas emissions in the Company's operation and production in accordance with the "Emission Standards for Odorous Pollutants" (GB14554-93), the "Integrated Emission Standard of Air Pollutants" (GB16297-1996), the "Emission Standard of Air Pollutants for Boiler" (GB13271-2014) and the "Pollution Control Standard for Hazardous Waste Incineration" (GB18484-2001).

The main sources of greenhouse gases and exhaust gases of the Company are odour (hydrogen sulphide, ammonia gas) and VOC generated by the animal room and exhaust gas (xylene) generated by the laboratory. In accordance with the internal management system, the Company sets up activated carbon adsorption devices to purify and treat exhaust gas, and regularly replaces the activated carbon. The exhaust gas is emitted after adsorption and purification by activated carbon, and the emission height is maintained at 15m, which is in line with the pollutant emission concentration, speed and height in the second period of the general air pollutant emission in the "Integrated Emission Standard of Air Pollutants" (DB11/501-2017) of Beijing municipality. According to the internal management regulations of the Company, the activated carbon replacement in the Company's Taicang laboratory is replaced on a quarterly basis. In order to quantify the exhaust gas emission indicators, the Company regularly engages qualified third-party enterprises to inspect the Company's exhaust gas every year, and accepts random inspection by the Environmental Protection Department of the Development Zone from time to time. Within the Company, the Company has established an environmental protection management team to clarify the responsibilities of environmental protection personnel, implement the environmental monitoring system and the pollutant discharge permit system. In 2022, the Company's emissions of odour in animal houses were approximately 46 kg.

Exhaust gas and greenhouse gas emissions of the Company

Type	Unit	2022	2021
Direct greenhouse gas emissions (Scope 1)	tCO ₂ e	271.01	272.99
Indirect greenhouse gas emissions (Scope 2)	tCO ₂ e	14,164.62	11,136.71
Total greenhouse gas emissions	tCO ₂ e	14,435.63	11,409.70
Greenhouse gas emission intensity	tCO ₂ e/operating income of RMB0'000	0.064	0.075

2 Calculation method of greenhouse gas emissions:

Direct greenhouse gas emissions: the energy consumption of the Company multiplied by the corresponding emission factors. The emission factors refer to ① "China Energy Statistical Yearbook" ② "IPCC2006";

Indirect greenhouse gas emissions: The Company's purchased electricity consumption is multiplied by the corresponding emission factors, and the emission factors are referenced from the Guidelines for the "Verification of Greenhouse Gas Emissions Reporting of Enterprises (Trial)" issued by the Ministry of Ecology and Environment;

Total greenhouse gas emissions: the sum of direct greenhouse gas emissions and indirect greenhouse gas emissions.

4. Green and low-carbon development

Waste management

The types of waste discharged by the Company include hazardous waste and non-hazardous waste. Hazardous waste mainly comes from medical waste, animal carcasses, laboratory organic waste liquid, waste activated carbon, etc. Non-hazardous waste mainly comes from domestic waste, packaging materials and waste paper.

With reference to the “Technical Specifications for the Prevention and Control of Hazardous Waste Pollution in Laboratory”, we have formulated “SOP: ADM-B021-3 Standard Operating Procedures for Waste Liquid and Medical Waste Treatment generated in the Trial” to dispose of hazardous waste. The hazardous waste is collected by designated personnel and stored in a closed place. Safety signs such as hazardous waste signboards, labels, and prohibition of fireworks are posted, and qualified third-party companies are engaged for regular removal and disposal.

In addition, the Company has actively formulated the internal SOP for the management of hazardous waste, namely the “Standard Operating Procedures for Waste Liquid and Medical Waste Treatment Produced in the Examinations”, so that the Company’s hazardous waste discharge in the production and operation process is legal and valid, and actively accepts the supervision of the regulatory authorities. In 2022, we entered the Company’s information in the Government’s “Integrated Solid Waste Management System”, completed the filling of the enterprise management plan, and the annual hazardous waste statement has also been reviewed by the regulatory authorities.

In the future, the Company will strengthen its waste discharge management capabilities in the following three aspects:

- Strengthen the level of waste classification and collection, avoid mixed collection, and reduce the difficulty of waste recycling and harmless treatment;
- Improve the environmental awareness of workers in the departments which generate waste, promote the importance of waste classification and collection, and reduce waste;
- Adopt new technologies and new processes to carry out harmless disposal of wastes in compliance with laws and regulations.

4. Green and low-carbon development

Waste discharge of the Company

Type of Waste	Unit	2022	2021
Medical waste	kg	196,180.00	156,220.00
Sewage station sludge	kg	47,920.00	26,500.00
Laboratory organic waste liquid	kg	151,246.45	125,593.70
Waste activated carbon	kg	9,134.24	11,160.12
Total hazardous waste	kg	404,480.69	332,973.79
Hazardous waste discharge intensity	kg/operating income of RMB0'000	1.78	2.20
Total non-hazardous waste	kg	400,800.00	398,300.00
Non-hazardous waste discharge intensity	kg/operating income of RMB0'000	1.77	2.63

4.2 Use of Energy and Resources

Energy Utilization

The Company attaches great importance to the conservation of natural resources, strictly complies with the "Environmental Protection Law of the People's Republic of China", the "Water Law of the People's Republic of China", the "Energy Conservation Law of the People's Republic of China" and other laws and regulations, and strives to achieve the coordinated and sustainable development of people, resources and the environment.

Electricity and natural gas are the main energy consumed in the Company's production and in the daily life thereof. In addition, the Company's business vehicles consume a certain amount of gasoline. Electricity consumption is mainly related to the overall operation of the Company (including chiller units, air-conditioning fan units and other auxiliary equipment, experimental equipment, etc.). Natural gas is mainly consumed for boiler combustion to produce water steam (use of high-pressure items of vacuum sterilizer in animal laboratory cleaning, use of air conditioning in animal room for humidifying, as well as heating in winter) and incinerator to burn animal carcasses.

4. Green and low-carbon development

We have adopted a number of energy conservation measures to reduce energy consumption:

- Purifying air-conditioners is the main energy-consuming electrical appliance. We use the automatic variable frequency speed control technology to regulate the airflow speed which is controlled at the standard lower limit. Control the temperature range by setting the temperature of the research model room to a standard floor in winter and a standard ceiling in summer. We use a mini-split independent air conditioning system. The SPF research model animal room is divided into several zones, each of which is installed with several mini-split independent air conditioning systems. The rooms and their respective air conditioning systems are selectively occupied based on the increase or decrease in the species and number of research model animals kept, with an aim to avoid squandering.
- We choose energy-efficient machines and pumps. Phased-out machine and pump products already announced by the state are strictly forbidden. Under normal load, the operating conditions of machines and pumps should be in the high-efficiency zone of the performance curve and a reasonable adjustment method should be adopted. Driving machines should match the load of machines and pumps. Motors are reasonably selected to increase their load rate. Adopt frequency conversion speed adjustment device for machines and pumps with large load change.
- The shape coefficient of building structures is well under control to minimize heat consumption as long as the technical requirements are met.
- The natural lighting design is strengthened for buildings. Daylighting bands are installed on the roofs and double-level high and low windows are installed on maintenance walls to save electricity.
- Three-dimensional heat tubes are installed in the air-conditioning compartment to reduce energy consumption.
- We use green lighting products. Light sources, lamps and ballasts with high light efficiency, long service life and good color rendering are used. We choose reasonable illuminance for interior lighting of buildings and increase the proportion of high-efficiency and energy-saving fluorescent lamps.
- The humidity of the animal room is constantly controlled at around 50% annually to save steam.

In the future, the Company will continue to carry out relevant measures to continuously reduce the level of energy consumption.

4. Green and low-carbon development

Use of water resources

The use of water resources of the Company mainly involves wastewater from cleaning of animal houses and laboratories, flushing water of pipes and ground, water production of pure water equipment, replenish cooling water of refrigeration machines in summer and daily use. As the Company is not listed as a key unit of water conservation management, the Company only needs to regularly report monthly water utilisation targets on the water management platform of Beijing Water Authority in accordance with the municipal requirements. The Company's goal in energy and water resources management is to improve the effective utilization of energy and water resources, and to maximize the environmental and economic benefits of energy and water resources on the premise of meeting operational activities. The water resources consumed by the Company in production, manufacturing and office operation are all from the municipal pipe network, and do not involve water sourcing issues.

In terms of effective water conservation, the Company has adopted the following measures:

- We enhance water measurement management. Production water measurement devices inside the workshop and wastewater measurement devices at workshop discharge outlets are installed; maintenance of water supply, water facilities, equipment and apparatus is strengthened to strictly prevent water dripping and leakage. Water use efficiency is improved to save water resources;
- The cooling water of the chiller is replenished by river's water for cooling in summer, and the condensate water of the HVC system is collected in summer to replenish the cooling water in the cooling tower;
- For domestic water use, we vigorously adopt water-saving technologies and water-saving water apparatus without using phased-out water apparatus explicitly specified by the state, and instal water-saving facilities or apparatus. Some of the treated wastewater can be used for greening and road sprinkling, thus water consumption is largely reduced.

Due to the nature of our business, there are no packaging materials in the operation of the Company.

Energy and Resources Consumption and Intensity

Type of energy resources	Unit	2022	2021
Petrol	Litre	20,351	21,251
Electricity	kWh	31,180,910	28,935,300
Steam	million KJ	120,261.74	92,735.35
Natural Gas	m ³	99,990	103,350
Comprehensive energy consumption	'000 kWh	63,619.20	55,984.99
Comprehensive energy consumption intensity	kWh/operating income of RMB0'000	280.51	369.13
Water consumption	m ³	202,710	162,066
Water consumption intensity	m ³ /operating income of RMB0'000	0.89	1.07

4. Green and low-carbon development

4.3 Response to Climate Change

Global warming and other abnormal climatic phenomena continue to be concerned by the whole society. With the continuous promulgation of relevant domestic policies, stakeholders have put forward higher requirements for tackling climate change and promoting low-carbon development. The Company sets out our efforts and future direction in addressing climate change based on our governance, strategy, risk management and metrics and targets.

GOVERNANCE

In terms of governance, the Board of Directors is the highest decision-making body for ESG management, guiding the sustainable development direction of the Company, discussing and determining ESG risks and opportunities, including risks and opportunities in response to climate change. With reference to the recommendations of TCFD (Disclosure of Climate-related Financial Information), we gradually review the current situation, formulate strategies, manage risks, identify and manage the risks and opportunities that the Company may face due to climate change.

STRATEGIES

Climate-related risks include risks related to the transition to a low-carbon economy (“Transformation Risks”) and risks related to the physical impact of climate change (“Physical Risks”), among which Transformation Risks can be divided into policy and legal risks, technical risks, market risks and reputational risks, while Physical Risks include acute risks (such as extreme weather such as typhoons and floods) and chronic risks (such as sustained high temperature changes in climate patterns).

Risk management

In response to the increasingly severe extreme weather challenges, the Company has formed a set of emergency procedures of “risk detection-release of early warning information-early warning action-emergency plan”. The Company also issued corresponding emergency plans and filed them with the Environmental Protection Bureau of the Development Zone to effectively ensure the stability and sustainability of the Company’s operations, including the “Emergency Plan for Environmental Emergencies of JOINN Laboratories (China) Co., Ltd.”

4. Green and low-carbon development

In response to physical risks such as extreme weather, we have adopted the following measures to effectively minimise the impact of natural disasters on the Company's production and operation:

- Before winter, carry out heat preservation of water supply pipelines and increase the pressure of water supply temperature measurement, strengthen the frequency of circulation inspection and prepare for anti-freezing work in advance;
- Before the rainy season of each year (end of May), the Company will engage a qualified third-party enterprise to conduct a lightning protection test on each building of the enterprise, and take measures to avoid thunderstorms, set roofing needles and lightning belts.

In addition, the Company actively responds to the national goal of carbon peak and carbon neutrality, advocates low-carbon travel, afforestation, and purchases new energy vehicles.

Indicators and Targets

The Company has identified indicators related to the monitoring of environmental, social and climate-related risks, and conducted statistics and disclosure of relevant data annually, including but not limited to:

- Energy consumption (gasoline, electricity, etc.);
- Water consumption;
- Greenhouse gas emissions (including Scope 1 and Scope 2);
- Discharge of hazardous waste;
- Discharge of non-hazardous waste.

We will continue to pay attention to the impact of climate change on the Company's business, fully respond to policy requirements, work together with all sectors to address climate change, and further improve strategy formulation, risk management, indicator and target identification and management.

Appendix

HKEX ESG Reporting Guide Content Index

“Environmental, Social and Governance Reporting Guide”		Content of the Report
Subject Area A. Environmental		
Aspect A1: Emissions		
A1	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	4.1 Emissions Management
A1.1	The types of emissions and respective emissions data.	4.1 Emissions Management
A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	4.1 Emissions Management
A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	4.1 Emissions Management
A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	4.1 Emissions Management
A1.5	Description of emissions target (s) set and steps taken to achieve them.	4.1 Emissions Management
A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target (s) set and steps taken to achieve them.	4.1 Emissions Management

“Environmental, Social and Governance Reporting Guide”		Content of the Report
Aspect A2: Use of Resources		
A2	General Disclosure Policies on the efficient use of resources, (including energy, water and other raw materials).	4.2 Use of Energy and Resources
A2.1	Direct and/ or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in’ 000s) and intensity (e.g. per unit of production volume, per facility).	4.2 Use of Energy and Resources
A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	4.2 Use of Energy and Resources
A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	4.2 Use of Energy and Resources
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	4.2 Use of Energy and Resources
A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Not applicable
Aspect A3: The Environment and Natural Resources		
A3	General Disclosure Policies on minimising the issuer’s significant impacts on the environment and natural resources.	4. Green and low-carbon development
A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	4. Green and low-carbon development
Aspect A4: Climate Change		
A4	General Disclosure Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	4.3 Tackling Climate Change
A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	4.3 Tackling Climate Change

Appendix

“Environmental, Social and Governance Reporting Guide”		Content of the Report
Subject Area B. Social		
Employment and Labour Practises		
Aspect B1: Employment		
B1	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	3.1 Employment and Labour Practises
B1.1	Total workforce by gender, employment type (for example, full-time or part-time), age group and geographical region.	3.1 Employment and Labour Practises
B1.2	Employee turnover rate by gender, age group and geographical region.	3.1 Employment and Labour Practises
Aspect B2: Health and Safety		
B2	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	3.4 Health and Safety
B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	3.4 Health and Safety
B2.2	Lost days due to work injury.	3.4 Health and Safety
B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	3.4 Health and Safety
Aspect B3: Development and Training		
B3	General Disclosure Policies on improving employees’ knowledge and skills for discharging duties at work. Description of training activities.	3.3 Development and Training
B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	3.3 Development and Training
B3.2	The average training hours completed per employee by gender and employee category.	3.3 Development and Training

“Environmental, Social and Governance Reporting Guide”		Content of the Report
Aspect B4: Labour Standards		
B4	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	3.1 Employment and Labour Practises
B4.1	Description of measures to review employment practises to avoid child and forced labour.	3.1 Employment and Labour Practises
B4.2	Description of steps taken to eliminate such practises when discovered.	3.1 Employment and Labour Practises
Operating Practises		
Aspect B5: Supply Chain Management		
B5	General Disclosure Policies on managing environmental and social risks of the supply chain.	1.4 Supply Chain Management
B5.1	Number of suppliers by geographical region.	1.4 Supply Chain Management
B5.2	Description of practises relating to engaging suppliers, number of suppliers where the practises are being implemented, and how they are implemented and monitored.	1.4 Supply Chain Management
B5.3	Description of practises used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	1.4 Supply Chain Management
B5.4	Description of practises used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	1.4 Supply Chain Management

Appendix

“Environmental, Social and Governance Reporting Guide”		Content of the Report
Aspect B6: Product Responsibility		
B6	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	1.2 Product Responsibility
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Not applicable
B6.2	Number of products and service related complaints received and how they are dealt with.	1.3 Customer Service
B6.3	Description of practises relating to observing and protecting intellectual property rights.	1.1 Innovative R&D
B6.4	Description of quality assurance process and recall procedures.	1.2 Product Responsibility
B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored.	1.3 Customer Service
Aspect B7: Anti-corruption		
B7	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	2.3 Anti-corruption
B7.1	Number of concluded legal cases regarding corrupt practises brought against the issuer or its employees during the reporting period and the outcomes of the cases.	2.3 Anti-corruption
B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	2.3 Anti-corruption
B7.3	Description of anti-corruption training provided to directors and staff.	2.3 Anti-corruption
COMMUNITY		
Aspect B8: Community Investment		
B8	General Disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities’ interests.	3.5 Social welfare
B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	3.5 Social welfare
B8.2	Resources contributed (e.g. money or time) to the focus area.	3.5 Social welfare